

Remarks

This amendment is submitted in response to the Office Action of May 1, 2003. Reconsideration and allowance of the claims is requested.

In this Office Action, the Examiner rejects claims 1-4 and 6-8 under 35 U.S.C 112 as covering subject matter which is not described with sufficient particularity in the application. The Examiner states that the specification does not clearly disclose what is the material that is the so-called "e-coating".

First of all, as to claims 6-8 they do not claim the e-coating; claim 5 as is obviously recognized by the Examiner also does not claim the e-coating. Therefore, this rejection is clearly on its face incorrect and must be withdrawn.

As to the rejection of claims 1-4 where the term e-coating was used, the Applicant submits herewith a Declaration by the inventor to indicate and establish that the term e-coating generally refers to the type of coating which appears on the outer surface of a lamination stack upon delivery from the manufacturer. Obviously, the removal of such a coating is necessary to have a consistent and reliable electrical connection between the mount for the stack and the stack itself.

To simplify matters with respect to the application, the term e-coating has now been removed from claims 1-4. As this is consistent with the summary of the invention at page 3 of the application as submitted which says, that the invention is directed to scraping off a "coating" without any reference to an e-coating. The scraping off of the e-coating was simply a more particular description, which has now been withdrawn from both the specification and claims. Therefore, cancellation of this term is not new matter, and does not expand the scope of the invention, as the idea of scraping the coating off the stack was clearly disclosed in the application as filed in the summary of the invention and this is now the scope of the claims submitted.

As to the rejection over prior art of claim 5 as anticipated by Aiello, in the previous response it was clearly pointed out that the Aiello patent is simply an example of the prior art which is intended to be avoided by the present invention. Aiello uses a separate clip to establish grounding between the stator stack and the mount for the stator, rather than incorporating the laminating features which are claimed in claims 5-8. therefore this rejection cannot be maintained.

In view of the fact that the issue with respect to e-coating has now been eliminated from claims 1-4, and the fact that this issue has never been relevant to claims 5-8, only claim 5 of which is currently rejected over prior art, consideration and allowance of all pending claims is requested.

If the Examiner continues to insist that Aiello should have some relevance to the rejection of any claim, then a new final office action should be sent out as the Examiner has made no response to the position taken on patentability of claim 5 over the reference in the final office action now being considered; therefore the Final Office Action previously rendered was incomplete.

If any matters can be handled by telephone, Applicant requests that the Examiner telephone Applicant's attorney at the number below.

The Commissioner is authorized to charge any additional fees to Deposit Account No. 20-0782 (Order No. STL 2943).

Respectfully submitted,

By: 
James A. Sheridan, Reg. No. 25,435

MOSER, PATTERSON & SHERIDAN, LLP
350 Cambridge Avenue, Suite 250
Palo Alto, California 94306-4036
Telephone: (650) 330-2310
Facsimile: (650) 330-2314

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

Please amend the following paragraphs in the specification as follows:

On page 6, paragraph 21:

The use of these features 304 eliminates the stator grounding clip which is typically used to cut into [the e-coating] a coating 305 which is provided over the stator laminations. Eliminating this coating ensures grounding of the lamination stack against the conductive surface of the shaft. As shown, the features are rounded; but they may come to a sharper point if such a point can meet the objective of scraping a sufficient amount of the coating off the surface of the features 304 to provide an electrically conductive contact between the lamination stack and the outer surface of the stack. The inner diameter of the yoke 300 is chosen to be only very slightly larger than the outer diameter of the shaft 200 or base shoulders 227 so that especially with the provision of the features 304, a tight interference fit between the lamination stack and the outer surface of the shaft or base is achieved.

On page 6, paragraph 22:

As seen, as the stack is pushed over the surface of the shaft or base, the interference fit with the sharp features 304 will cause the [e-coating] coating 305 to be scraped off the ends and sides of the lamination features 304. Thus, stator grounding is achieved with no additional parts or associated costs.

IN THE CLAIMS

1. (Amended) In a spindle motor comprising a shaft and a hub rotating over the shaft supported by a bearing for rotation relative to the shaft, the hub supporting a magnet radially aligned with a stator supported from an outer surface of the shaft, the stator comprising a plurality of laminations forming a laminated stack comprising an [e-]coating over the surface of the stack, the laminations having a circular inner yoke having an inner diameter sized to form an interference fit with a surface within the

motor, the yoke further comprising a plurality of lamination features extending radially inward from the inner diameter of the yoke and adapted to have the [e-]coating scraped from the surface of the features by interference fit with an outer surface over which the stack is located, thereby rigidly establishing an axial, radial and circumferential location of the stator relative to the shaft while grounding the stator to the shaft or base of the motor.

2. (Original) A motor as claimed in claim 1 wherein the motor shaft has an outer surface which is fitted within an upright portion of a base of the housing, and the stator stack has an interference fit with an outer surface of the upright portion.

3. (Original) A spindle motor as claimed in claim 1 wherein the lamination features are generally semicircular in cross-section.

4. (Original) A spindle motor as claimed in claim 3 wherein the lamination features are sized to have an interference fit with the outer surface of the upright section of the base of the casing, and wherein the upright section further comprises a radially outward extending shoulder on which the stator laminations rests to axially locate the stator.

5. (Previously Amended) In a spindle motor comprising a shaft in a hub rotating over the shaft supported by bearing for rotation relative to the shaft, the hub supporting a magnet radially aligned with a stator supported from an outer surface of the shaft, an electrical grounding means incorporated with a inner yoke of stack laminations forming the stator, the grounding means conductively and rigidly fixing the stator stack laminations relative to the magnet while grounding the stator.

6. (Original) A motor as claimed in claim 1 wherein the motor shaft has an outer surface and the stator stack has an interference fit with the outer surface of the shaft.

7. (Amended) A spindle motor as claimed in claim 6 wherein the stator stack laminations comprise lamination features which are generally semicircular in cross-section.
8. (Amended) A spindle motor as claimed in claim 6 wherein the shaft further comprises a radially outward extending shoulder on which the stator stack laminations rests to axially locate the stator, the lamination features further restraining axial movement away from the shoulder.